

WHAT IS CLAIMED IS:

1. An image forming apparatus for forming an image of multilevel image data, comprising:
 - 5 driving means for driving an image forming element for image formation;
 - additional data generating means for generating a digital signal string based on predetermined additional data; and
 - 10 input means for superposing a digital signal string related to the multilevel image data and the digital signal string based on the additional data and inputting the superposed digital signal string to said driving means.
2. The apparatus according to claim 1, wherein said input means executes one of AND operation and OR operation of the digital signal string related to the multilevel image data and the digital signal string based on the additional data.
3. The apparatus according to claim 1, wherein said digital signal string related to the multilevel image data and said digital signal string based on predetermined additional data are generated by different clock generation means.
4. The apparatus according to claim 1, wherein the additional data is based on information for specifying said image forming apparatus.

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5. The apparatus according to claim 1, further comprising means for generating horizontal scan position information and vertical scan position information in printing scan by said image forming element,
 - 5 wherein said additional data generating means generates a digital signal string based on the additional data on the basis of the horizontal scan position information and the vertical scan position information.
- 10 6. The apparatus according to claim 1, wherein said additional data generating means comprises means for inputting information of a position on the image to which the additional data is to be added.
- 15 7. The apparatus according to claim 1, wherein the multilevel data includes data of at least yellow, cyan, and magenta, and said additional data generating means generates a digital signal string based on the additional data only for a digital signal string of the multilevel image data pertaining to yellow.
- 20 8. The apparatus according to claim 1, wherein said image forming element is a light-emitting element.
9. An image forming method of forming an image of multilevel image data by using an image forming element for image formation and driving means for driving said image forming element, comprising the steps of:
 - 25 generating a digital signal string based on

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predetermined additional data; and

superposing a digital signal string related to the multilevel image data and the digital signal string based on the additional data and inputting the

5 superposed digital signal string to said driving means.

10. The method according to claim 9, wherein the digital signal string related to the multilevel image data and the digital signal string based on the

additional data are superposed by executing one of AND

10 operation and OR operation.

11. The method according to claim 9, wherein said digital signal string related to the multilevel image data and said digital signal string based on

predetermined additional data are generated by different

15 clock generation means.

12. The method according to claim 9, wherein the additional data is based on information for specifying an apparatus for executing said image forming method.

13. The method according to claim 9, wherein

20 horizontal scan position information and vertical scan position information in printing scan by said image forming element are generated, and a digital signal string based on the additional data is input to an input terminal on the basis of the generated horizontal scan

25 position information and vertical scan position information.

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14. The method according to claim 9, wherein information of a position on the image to which the additional data is to be added is generated, and a digital signal string based on the additional data is 5 generated on the basis of the generated position information.

15. The method according to claim 9, wherein the multilevel data includes data of at least yellow, cyan, and magenta, and a digital signal string based on the 10 additional data is generated only for a digital signal string of the multilevel image data pertaining to yellow.

16. The method according to claim 9, wherein said image forming element is a light-emitting element.

17. An image forming apparatus for forming an image of 15 multilevel image data, comprising:

driving means for receiving a digital signal string related to the multilevel image data and driving an image forming element for image formation; and

additional data generating means for generating a 20 digital signal string based on predetermined additional data,

wherein said driving means has an input terminal for forcedly controlling light emission of said image forming element, and a digital signal string based on 25 the additional data is input to said input terminal of said additional data generating means.

18. The apparatus according to claim 17, wherein said input terminal forcedly turns on or off light emission of said image forming element.

19. The apparatus according to claim 17, wherein said 5 digital signal string related to the multilevel image data and said digital signal string based on predetermined additional data are generated by different clock generation means.

20. An image forming apparatus for forming an image of 10 multilevel data, comprising at least two image forming means,

each of said image forming means comprising:

driving means for driving an image forming element for image formation;

15 additional data generating means for generating a digital signal string based on predetermined additional data; and

input means for superposing a digital signal string related to the multilevel image data and the 20 digital signal string based on the additional data and inputting the superposed digital signal string to said driving means.

21. The apparatus according to claim 20, wherein said input means executes exclusive-OR operation of the 25 digital signal string related to the multilevel image data and the digital signal string based on the

additional data.

22. The apparatus according to claim 20, wherein said digital signal string related to the multilevel image data and said digital signal string based on
5 predetermined additional data are generated by different clock generation means.

23. The apparatus according to claim 17, wherein the additional data is based on information for specifying said image forming apparatus.

10 24. The apparatus according to claim 20, wherein the additional data is based on information for specifying said image forming apparatus.

25. The apparatus according to claim 17, further comprising means for generating horizontal scan position
15 information and vertical scan position information in printing scan by said image forming element,

wherein said additional data generating means generates a digital signal string based on the additional data on the basis of the horizontal scan
20 position information and the vertical scan position information.

26. The apparatus according to claim 20, further comprising means for generating horizontal scan position information and vertical scan position information in
25 printing scan by said image forming element,

wherein said additional data generating means

generates a digital signal string based on the additional data on the basis of the horizontal scan position information and the vertical scan position information.

5 27. The apparatus according to claim 17, wherein said additional data generating means comprises means for inputting information of a position on the image to which the additional data is to be added.

10 28. The apparatus according to claim 20, wherein said additional data generating means comprises means for inputting information of a position on the image to which the additional data is to be added.

15 29. The apparatus according to claim 17, wherein the multilevel data includes data of at least yellow, cyan, and magenta, and said additional data generating means generates a digital signal string based on the additional data only for a digital signal string of the multilevel image data pertaining to yellow.

20 30. The apparatus according to claim 20, wherein the multilevel data includes data of at least yellow, cyan, and magenta, and said additional data generating means generates a digital signal string based on the additional data only for a digital signal string of the multilevel image data pertaining to yellow.

25 31. The apparatus according to claim 17, wherein said image forming element is a light-emitting element.

32. The apparatus according to claim 20, wherein said image forming element is a light-emitting element.

33. An image forming method of forming an image of multilevel image data by using an image forming element 5 for image formation and driving means for driving said image forming means, said driving means having an input terminal for forcedly controlling light emission of said image forming element, comprising the steps of:

inputting a digital signal string related to the 10 multilevel image data to said driving means; and

generating a digital signal string based on predetermined additional data and inputting the digital signal string to said input terminal.

34. The method according to claim 33, wherein said 15 input terminal forcedly turns on or off light emission of said image forming element.

35. The method according to claim 33, wherein said 20 digital signal string related to the multilevel image data and said digital signal string based on predetermined additional data are generated by different clock generation means.

36. An image forming method of forming an image of multilevel data by using at least two image forming elements for image formation and at least two driving 25 means for driving said image forming elements, comprising the steps of:

generating a digital signal string based on predetermined additional data for each of said driving means; and

superposing a digital signal string related to the
5 multilevel image data and the digital signal string based on the additional data and inputting the superposed digital signal string to each of said driving means.

37. The method according to claim 36, wherein the
10 digital signal string related to the multilevel image data and the digital signal string based on the additional data are superposed by executing exclusive-OR operation.

38. The method according to claim 36, wherein said
15 digital signal string related to the multilevel image data and said digital signal string based on predetermined additional data are generated by different clock generation means.

39. The method according to claim 33, wherein the
20 additional data is based on information for specifying an apparatus for executing said image forming method.

40. The method according to claim 36, wherein the additional data is based on information for specifying an apparatus for executing said image forming method.

25 41. The method according to claim 33, wherein horizontal scan position information and vertical scan

position information in printing scan by said image forming element are generated and, on the basis of the generated horizontal scan position information and vertical scan position information, a digital signal 5 string based on the additional data is input to said input terminal.

42. The method according to claim 36, wherein horizontal scan position information and vertical scan position information in printing scan by said image 10 forming element are generated and, on the basis of the generated horizontal scan position information and vertical scan position information, a digital signal string based on the additional data is input to said input terminal.

15 43. The method according to claim 33, wherein information of a position on the image to which the additional data is to be added is generated and, on the basis of the generated position information, a digital signal string based on the additional data is generated.

20 44. The method according to claim 36, wherein information of a position on the image to which the additional data is to be added is generated and, on the basis of the generated position information, a digital signal string based on the additional data is generated.

25 45. The method according to claim 33, wherein the multilevel data includes data of at least yellow, cyan,

and magenta, and a digital signal string based on the additional data is generated only for a digital signal string of the multilevel image data pertaining to yellow.

46. The method according to claim 36, wherein the
5 multilevel data includes data of at least yellow, cyan, and magenta, and a digital signal string based on the additional data is generated only for a digital signal string of the multilevel image data pertaining to yellow.

47. The method according to claim 33, wherein said
10 image forming element is a light-emitting element.

48. The method according to claim 36, wherein said image forming element is a light-emitting element.